

**REMARKS**

Reconsideration and allowance of this patent application are respectfully requested.

Applicant notes that this application does not claim priority from EP 98304101.3. A courtesy copy of EP 0 880 258 (which corresponds to EP 98304101.3).

The specification is amended to correct the informality noted by the Examiner in the office action. As such, withdrawal of the objection to the specification is respectfully requested.

Claims 1-24 were rejected under 35 U.S.C. Section 102(b) as allegedly being "anticipated" by Contonzo *et al.* (U.S. Patent No. 5,307,398). For the reasons set forth below, Applicant traverses this rejection.

Contonzo *et al.* discloses a system that includes a remotely controlled tone generator 18 and a tone generation controller or remote control unit 22. The remote control unit 22 has three push buttons 38, 40 and 42. On depressing one of these push buttons, one of a number of predetermined and specific encoded controller signals is transmitted over communication line 12, which is then decoded by decoder unit 46 within the tone generator circuit 18. The decoded signal is then passed to the switching logic circuit 48 whose output is one of three logical signals received at inputs 32, 34 and 36 that are needed to control the tone generator circuit 30. The three inputs 32, 34, and 36 correspond to the push buttons 38, 40 and 42 respectively. Col. 3, ll. 13-15. A signal received at

input 32 controls whether the tone generated from the tone generator circuit 30 will be a steady tone or a dual tone. A signal received on input 34 controls whether the tone generator unit 18 is turned on or off. A signal received on input 36 controls whether the output from the tone generator circuit 30 will be a tone or a direct current for polarity checking. Col. 3, ll. 1-12.

There is no disclosure of any measurement function performed by the system disclosed in Contonzo *et al.*, much less disclosure of switching circuitry for connecting predetermined circuitry to the communications line. Instead, Contonzo *et al.* describes that the pressing of one of buttons 38, 40 or 42 transmits a signal to the tone generator unit to determine which tone is to be generated from the tone generator circuit 30 back to the remote control unit 22. Thus, Contonzo *et al.* simply discloses a signal that is generated by the tone generator circuit 30 in response to one of the push buttons being depressed.

Accordingly, Contonzo *et al.* does not teach an apparatus for remotely measuring characteristics of a communication line as set forth in claim 1. The specific references in the office action to the title, abstract and various lines in each of columns 1, 2 and 3 of Contonzo *et al.* do not mention any measurement characteristics or functions. Instead, the signal generated in Contonzo *et al.* from the remote control unit is indicative of a tone that is to be sent down the line.

The alleged "sender means," or unit 18, has a decoder circuit 46 for detecting a signal and switching logic circuit 48. However, the switching logic circuit 48 does not connect predetermined circuitry across the line end to enable a selected characteristic of the line to be measured. In fact, the references in the

office action to predetermined circuitry being numbers 32, 34 and 36 in Figure 3 is incorrect as these are simply just inputs that carry a signal which is indicative of which tone is to be generated from the tone generator circuit 30. The further references to the Contonzo *et al.* specification contain no disclosure or suggestion of any measurement performed by the remote control unit on the line.

Anticipation under 35 U.S.C. Section 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. Electro Med. Sys. S.A. v. Cooper Life Scis., 34 F.3d 1048, 1052, 32 USPQ.2d 1017, 1019 (Fed. Cir. 1994). Because Contonzo *et al.* at least fails to disclose the remote measurement of characteristics of a communication line or the connection of circuitry across the line to enable a selected characteristic of the line to be measured, Contonzo *et al.* cannot anticipate the subject matter of claim 1.

Claims 2-9 depend from claim 1 and likewise cannot be anticipated by Contonzo *et al.* In addition, these claims recite additional features not disclosed by Contonzo *et al.* For example, claim 2 describes a unique code representative of a characteristic of the line to be measured. Because Contonzo *et al.* does not disclose measuring line characteristics, there can be no disclosure of a code representative of a measured characteristic.

With respect to claim 6, Contonzo *et al.* does not disclose any switching circuitry that is controlled by a processor to connect predetermined circuitry on the basis of a particular code received and processed by the processor means. All Contonzo *et al.* does mention, particularly in col. 3, ll. 1-15, is that a particular

tone is generated by the tone generator circuit 30 in response to depression of one of the buttons 38 through to 42 on the remote control unit 22. There is simply no disclosure of the features of claim 6.

With respect to claim 7, the push buttons in the remote control unit 22 in Contonzo *et al.* do not allow a particular characteristic of the line to be measured. This is simply not disclosed in Contonzo *et al.* and col. 3, ll. 13-15 only makes reference to the particular tones that are generated on receipt of a signal at the three inputs 32, 34 and 36.

With respect to claim 9, Applicant notes that the low frequency signal is the signal transmitted from the receiver means to the sender means which is indicative of the selected characteristic to be measured. In Contonzo *et al.*, the signal referred to at col. 3, ll. 1-4 is a signal that emanates from the tone generator circuit 30 which is transmitted from the tone generator unit 18 to the remote control unit 22.

Claim 10 describes a method of remotely measuring characteristics of a communications line in which, among other things, switching means is controlled to connect predetermined circuitry across the communications line at an end thereof to enable a selected characteristic of the line to be measured. Applicant submits that Contonzo *et al.* does not anticipate the subject matter of claim 10 and its dependent claims 11-18 for reasons similar to those advanced above with respect to claims 1-9.

Claim 19 describes a method of testing a communications line so as to ascertain and measure one or more characteristics of the communications line in

which one characteristic is selected and predetermined circuitry is connected across the communications line at an end thereof. Applicant submits that Contonzo *et al.* does not anticipate the subject matter of claim 19 and its dependent claims 20-23 for reasons similar to those advanced above with respect to claim 24 and its dependent claims.

Claim 24 describes an apparatus for testing a communications line so as to ascertain and measure a plurality of characteristics of the line which includes selection means for selecting one of the characteristics and switching means for connecting predetermined circuitry across the line at an end thereof. Applicant submits that Contonzo *et al.* does not anticipate the subject matter of claim 24 and its dependent claims 25-28 for reasons similar to those advanced above with respect to claim 1 and its dependent claims.

New claims 29-33 are added for the Examiner's consideration. The subject matter of these new claims is fully supported by the original disclosure and no new matter is added. Applicant submits that these new claims are allowable for reasons similar to those advanced with respect to claim 1 and its dependent claims.

Applicant submits that the pending claims are in condition for allowance, and action to that end is earnestly solicited.

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If any issues remain to be resolved, the Examiner is urged to contact the attorney for Applicants at the telephone number listed below.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

A handwritten signature in cursive script, reading "Michael J. Shea", is written over a horizontal line.

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**Version with markings to show changes made**

The paragraph beginning on page 6, line 4 is amended as follows:

--Figure 1 shows apparatus 2 for performing test measurements on a communications line 4 having conductors 10 and 12. At the exchange side of the line 4, sender means in the form of a sender unit 6 is connected between conductors 10 and 12 at terminals 14 and 16 and at the receiver end of line 4 is connected receiver means in the form of a receiver unit 8 at terminals 18 and 20. Alternatively the sender unit 6 can be connected across line 4 at a pillar or pit. Receiver unit 8 is used to display test results on line 4 and to remotely control the sender unit 6 [4]. Additionally a probe unit is used for identification of a pair of conductors of the line, to be described later. The apparatus 2 is able to connect and disconnect a short-circuit (strap). While the line 4 is short-circuited, the apparatus 2 may decode signals transmitted from receiver unit 8 to sender unit 6.--

Claims 1, 10, 19 and 24 are amended as follows:

1. (Amended) Apparatus for remotely measuring characteristics of a communications line comprising:

receiver means for connection to a remote end of the communications line;

sender means for connection to the other end of the communications line;

said receiver means generating a signal in response to a selection of one of a plurality of characteristics of said line to be measured;

said signal uniquely representing said selected characteristic;

said signal being transmitted along the communications line toward the sender means;

said sender means having detection means for detecting said signal, and switching means,

such that on detection of said signal and, on the basis of the unique representation of the signal, the switching means is controlled so as to connect predetermined circuitry across the line at said other end [and at said remote end] to enable a selected characteristic of the line to be measured.

10. (Amended) A method of remotely measuring characteristics of a communications line, comprising the steps of:

connecting receiver means to a remote end of the communications line;

connecting sender means to the other end of the communications line;

causing the receiver means to generate a signal in response to a selection of one of a plurality of characteristics of said line to be measured, said signal uniquely representing said selected characteristic;

transmitting said signal along the communications line toward the sender means; and

detecting said signal through the sender means and, on the basis of the unique representation of the signal, controlling switching means to connect



predetermined circuitry across the line at said other end [and at said remote end] to enable a selected characteristic of the line to be measured.

19. (Amended) A method of testing a communications line so as to ascertain and measure one or more characteristics of the communications line employing random switching between functions to select said characteristics, the method comprising the steps of:

- connecting receiver means to a remote end of the communications line;
- connecting sender means to the other end of the communications line;
- generating a signal in response to the random selection on said receiver means of one of said one or more characteristics, said signal uniquely representing the selected characteristic;
- transmitting said signal to said sender means along said communications line;
- detecting said signal at said sender means; and
- connecting predetermined circuitry, on the basis of said unique representation, across the communications line at said other end [and said remote end] to enable the selected characteristic to be ascertained and measured.

24. (Amended) Apparatus for testing a communications line so as to ascertain and measure a plurality of characteristics of the line, said apparatus comprising:

receiver means for connection to a remote end of the communications line;

sender means for connection to the other end of the communications line;

selection means enabling the random selection of one of said characteristics;

said receiver means generating a signal in response to the random selection of one of said characteristics;

said signal uniquely representing the selected characteristic and being transmitted along the communications line for receipt by the sender means;

detection means for detecting said transmitted signal;

switching means for connecting predetermined circuitry across the line at said other end [and at said remote end]; and

such that one detection by said detection means of said transmitted signal, said switching means connects said predetermined circuitry to enable the selected characteristic to be ascertained and measured.